



# VALIDATION REPORT ON COMPLIANCE WITH WCD RECOMMENDATIONS

**VIETNAM CARBON ASSETS  
LTD**

REPORT No. **VIETNAM-WCD/0010/2011**  
REVISION No. 01

**SONG BUNG 6 HYDROPOWER  
PROJECT**

**BUREAU VERITAS CERTIFICATION**

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Report No: VIETNAM-WCD/0010/2011 rev. 01

## WCD ASSESSMENT REPORT

Date of first issue: <b>20/07/2011</b>	Organizational unit: <b>Bureau Veritas Certification Holding SAS</b>
Client: <b>Vietnam Carbon Assets Ltd</b>	Client ref.: <b>Renat Heuberger</b>
Summary: Bureau Veritas Certification has made the assessment the compliance with the criteria of the World Commissions Dams, as well as the host country criteria of Song Bung 6 Hydropower project of Vietnam Carbon Assets Ltd located in Ma Cooih and Ka Dang Communes, Dong Giang District and Thanh My Town, Nam Giang District, Quang Nam Province, Vietnam.  The assessment is defined as an independent and objective review of the project design document, WCD checklist based on WCD recommendations and other relevant documents. The overall assessment was conducted using Bureau Veritas Certification internal procedures.  During the course of assessment, 0 CAR and 0 CL were raised by Bureau Veritas Certification. Subsequent requirements, which shall be taken into account in the subsequent verification, are addressed as FAR. With this assessment, 0 FAR was raised  In summary, it is Bureau Veritas Certification's opinion that the project sufficiently complies with the relevant WCD and host country criteria.	

Report No.: <b>VIETNAM-WCD/0010/2011</b>	Subject Group: <b>CDM</b>
Project title:  <b>Song Bung 6 Hydropower Project</b>	
Work carried out by:  <b>Nguyen Tu Hai, CDM Verifier, WCD expert</b>	
Work approved by:  <b>Tran Viet Hoang, CDM Lead Verifier</b>	
Date of this revision: <b>20/07/2011</b>	Rev. No.: <b>01</b>
Number of pages: <b>71</b>	

## Indexing terms

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# ANNEX

## WCD Checklist

**Annex E****COMPLIANCE REPORTS ASSESSING APPLICATION OF ARTICLE 11 b (6) OF EMISSIONS TRADING DIRECTIVE TO HYDRO ELECTRIC PROJECT ACTIVITIES EXCEEDING 20 MW.****Date: 20<sup>th</sup> July 2011****Section 1: Description of the Project**

Summary Description of the Project	Please complete
Name of Project	Song Bung 6 Hydropower project
Project ID Number	<a href="http://cdm.unfccc.int/Projects/Validation/DB/WR0MO4FXSAX6NUTIZZVRCMTLUVO39O/view.html">http://cdm.unfccc.int/Projects/Validation/DB/WR0MO4FXSAX6NUTIZZVRCMTLUVO39O/view.html</a>
Location	Bung river, the left shore river belongs to Ma Cooih commune Dong Giang district in Quang Nam province and the right shore river belongs to Thanh My town, Nam Giang district in Quang Nam province, Vietnam
Date of Completion of Report	20/07/2011
Name of watercourse	Bung river
<b>1.1 Project area</b>	
1. Description of the watershed: <ul style="list-style-type: none"> <li>Political and administrative boundaries</li> <li>Communities located along</li> <li>Principal land used pattern</li> <li>Existing and planned river flow modifications</li> </ul>	<ul style="list-style-type: none"> <li>Bung River is near the border between Viet Nam and Laos. This river belongs to the Vu Gia – Thu Bon river system. Bung River runs the West South – East North direct and combine with the Cai River in the 10km far from dam. This river is located in the Central of Viet Nam. The Vu Gia – Thu Bon river system runs wholly in the Central of Viet Nam not running through and sharing the water resources with any other countries.</li> <li>The majority of local residents living in the project area are the ethnic minorities like</li> </ul>



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Summary Description of the Project	Please complete
<ul style="list-style-type: none"> <li>Average annual runoff (m<sup>3</sup>)</li> </ul>	<p>Co Tu, Gie –Trieng and Kinh</p> <ul style="list-style-type: none"> <li>This project occupied land (137.94 ha). Most of occupied land is the natural forest land and land for afforestation but it is small when compares with the forest land in Dong Giang and Nam Giang districts</li> <li>The proposed project is a new hydro power plant with a new built dam and reservoir. Hence, it is a planned river flow modifications.</li> <li>3,745 millions</li> </ul>
2. Average annual river flow (m <sup>3</sup> /s)	119.0
3. Average annual river runoff before and after project's implementation (m <sup>3</sup> )	Because the reservoir regulates water level on the daily basis only but not seasonally so the average annual river runoff will not be changed.
4. State briefly what impacts other hydrological projects have had on the river basin within 50km (untouched, affected significantly affected by other activities)	Affected by other hydropower projects which located on Bung river as Song Bung 2, Song Bung 4, A Vuong, Song Bung 5 Hydropower plants. However they have only A Vuong hydropower plant which is operating.
5. Ecological description of the surroundings (forest, cultivated land, wasteland, cultural heritage sites etc.) conservation value	The Bung river is the left branch of Vu Gia river which started from high mountain. The land of project site and surroundings is the forest, rocky and wild land. Only a small area is the cultivated land. No natural or historical conservation sites and archaeological places exist in the commune and surrounding areas.
<b>1.2 Project – related activity</b>	
1. Type of water infrastructure project (e.g. conventional dam, run-of-river- with or	Storage reservoir.



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Summary Description of the Project	Please complete
without a dam)	
2. Related infrastructure being built as part of the project (i.e. roads, transmission lines, bridges)	The project will upgrade existing roads and construct a new 110 kV transmission line together with a hydropower plant
3. Installed generation capacity	29
4. Load factor	47%
5. Average annual energy production (MWh)	120,520
6. What does the project play in the national / regional electricity supply (base load, peak load, load balancing services for the grid, support for intermittent renewable, etc.)?	The project will supply the electricity for load balancing services for the grid.
7. Estimated annual emission reduction potential	68,425
8. At what stage is the project's construction at the time of this application	Under construction
9. What other direct purposes does the project serve (irrigation, flood control, water storage for drought protection, water based transport, leisure facilities, aquaculture, industrial and municipal water supply, etc.)?	<p>This project will facilitate the industrialization process of the province and support for economic development of local villages through making favourable traffic to trade, tourism inside the province.</p> <p>When the proposed project operates, it will increase the flow water in dry season and add the water for agricultural land and it also decrease the water flow in rainy season and reduce the flood</p> <p>The proposed project also helps to control the weather in this site and makes the favourable conditions to develop ecosystem.</p>



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Summary Description of the Project	Please complete
<b>1.3 Project Component - Water-flow: Structures and changes</b>	
1. Production capacity submerged area (W/m <sup>2</sup> )	72.9
2. Retention structure / retarding structure (if present)	NA
3. Type of water diversion	NA
4. Length of diversion	NA
5. Type of water inlet	Amoured concrete
6. Reservoir (if present)	The reservoir implemented due to the project activity is a daily regulating reservoir.
7. Dam height (from foundation)	39.2 m
8. Crest length	50 m
9. Reservoir area at average water level	39.8 ha
10. Total reservoir capacity (m <sup>3</sup> )	3.29 million
11. Back water length	204 m



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Summary Description of the Project	Please complete
12.Submerged area in total	69.64 ha
13.Submerged residential area	0.04 ha
14.Submerged farmland/grassland	0.44 ha
15.Number of displaced inhabitants	0
16.Production capacity / submerged area (W/m <sup>2</sup> )	72.9





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**Section 2: Assessment of compliance with the WCD criteria**

Please complete this form with full explanations for all items. If a criterion is not relevant to the project, please explain why

CRITERIA			
1. Gaining Public Acceptance	Description	Sources*	Validator's Assessment
<b>1.1 Stakeholder consultation</b>  1. Describe how the relevant stakeholders were identified.	<p>The project owner hired a consulting company to conduct the feasibility research. Within the research, the stakeholders were identified and categorized according to the relevant Vietnamese law and regulations. The groups of stakeholders included as follows:</p> <ul style="list-style-type: none"> <li>• People who are directly affected by the project due to the occupation of cultivated lands</li> <li>• District and commune level: people living in Ma Cooih, Ka Dang and Thanh My communes and related governmental authorities</li> <li>• River-basin and national: The Bung River is left branch of Vu Gia river with no inter-regional impacts and the groups listed above are almost all people who are impacted by the project activity.</li> </ul>	/1/, /2/, /24/	<p><i>During validation, Bureau Veritas verifiers have already approached impartially with local stakeholders including representatives of Local people committee, and people affected by project.</i></p> <p><i>By interview, verifiers have confirmed that the local stakeholders have been informed for project. Affected households have been invited for negotiation of compensation</i></p>

\* Such as process documentation, stakeholders and issues identification, consultation strategies, resources planning, compensation plans, timetables, information sharing, written agreements with stakeholders, records of interviews, results of surveys/polls, minutes of meetings of the Stakeholders Forum, project documentation, Environmental Impact Assessments, documents related to local spatial planning, government and local authorities permits and agreements, description of methodologies used, decommissioning plans (where appropriate), other related environmental impact and social impact studies, etc.



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2. Are any of these people minority groups, especially indigenous people and if so, what special efforts were taken to identify and meet their needs?	Most inhabitants in the project area are from the ethnic minority groups, including Co Tu, Gie Trieng and Kinh. The project participant has been constantly consulting the inhabitants in the project area since the starting of the project idea and during the project's preparation and construction. In all the communications/meetings, local authority representatives have been present and observed the discussions/negotiations. The local residents always have unlimited right to present their concerns/requests to the project participants directly with the observation of the authorities or they could choose to reflect their opinions via the local authorities then the authorities will have the responsibilities to request the project participant to address the issues. All the meetings/major communications have the minutes to summarize the problems/issues and also the feedbacks/commitments by the project participant. So far, the inhabitants always show their strong support for the project implementation due to the potential socio-economic and environmental values that the project will bring to the region and residents.	/2/, /3/	<b><i>By means of checking relevant records and interviewing local people, BV verifiers can confirm that the minority people were informed about the Project and all their responses were aware by Project owner. All people strongly support the Project development</i></b>
3. How many people have to be resettled due to the project?	0	/23/, /34/, /35/	<b><i>By interview the representative of People Committees, no household resettled due to the Project</i></b>
4. Resettled people/annual energy	0 / 120.520 GWh	/23/, /34/, /35/	<b><i>OK, by checking relevant records, BV verifiers can</i></b>



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production (number/GWh).			<i>confirm the accuracy of provided data</i>
5. How many people were otherwise affected by the project (e.g. through loss of land, reduced productivity of fishing or hunting, etc)	9 residences in Dong Giang district and 22 residences in Nam Giang district	/5/	<i>OK, via checking the provided document, information is confirmed by BV verifiers</i>
6. Describe how the affected local people and other relevant stakeholders have been informed and involved in the decision-making process of building the power plant	<p>The project idea has been informed to the local people in a very early state of preparation of the feasibility study in order to collect feedbacks/comments on the proposed project activity. To prepare the land inventory and survey for the land occupied by the project, the project owner and the consultant who will prepare the FS have visited each impacted household to inform about the project idea and conduct the survey.</p> <p>Subsequently meetings and discussions between the project owner and local people and authorities were held to address concerns raised by local people. The information on the meetings was made available via the public speaker system operated by the communal authorities.</p> <p>In this proposed project, the affected local people are fully agreed with the plan to build the hydropower at the project site because they know that they will get benefit from that. compensation plans were negotiated with and agreed by each impacted household</p>	/2/, /26/, /28/	<i>Via checking records, interviewing the local stakeholders, verifiers can confirm the consultation process had been properly implemented</i>
7. Describe how the	The impacts of the project on quality of life of	/8/	<i>OK, via interviewing on – site,</i>



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<p>affected local people and relevant stakeholders have been informed about the impacts of the project on their quality of life</p>	<p>the local people have been informed via different meetings with local people and local authorities. The information disseminated via the direct meetings with each impacted household as described above, then later via the meetings organized by as well as public speaker operated by the communal authorities. At the initial stage of the project preparation, information about the project idea, project's purposes and land occupations has been informed to the local authorities via the meetings between the local authorities and project owners. The local authorities then informed the potential project and its impacts to local residents via meetings. After that a summary of the project, its impacts and development are informed to the local people either by the project owner or by local authorities via meetings and negotiations. And a summary of approved environmental impact assessment report was publically post at the project site and the Commune's Hall as regulated by Government's Decree No. 80/2006/NĐ-CP dated 09 August 2006 providing guidance on implementation of the Environmental Law.</p>		<p><b><i>the content of response has been confirmed</i></b></p>
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8. How have the affected local and indigenous communities participated in the decision-making process?	The affected local and indigenous communities had participated in the decision-making process. They gave their comments in the meetings before the starting date of project activity and also in the construction period of this project. If there are any negative reasonable comments, then the project will be postponed or even stopped until the issue is addressed properly under the supervision of the local authorities.	/2/, /5/	<b><i>OK, by interviewing on – site, the response has been confirmed and assessed reliable</i></b>
9. How will the economic and social impacts of the project on the affected local communities, indigenous people and/or other relevant stakeholders be addressed?	According to Government's Decree No. 80/2006/NĐ-CP dated 09 August 2006 providing guidance on implementation of the Environmental Law, an EIA has to include the assessment on the social and economic impacts on the affected local communities and residents. Therefore, the assessment on the social and economic impacts has been conducted by a third party and incorporated in the EIA report. Such assessment results are informed to the local people as part of a EIA report. The stakeholders recognized the following benefits from the implementation of the project: • Improving the transportation network and telecommunication system in the region that will create favourable conditions for living and production activities of local people, helps the transportation of goods and people, and facilitates the communication among areas in the region.	/2/, /5/, /6/, /17/, /18/, /40/	<b><i>OK. By interviewing local government and people, cross – checking the EIA report and relevant documents, all economic and social impacts of the project are confirmed sufficiently</i></b>



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	<ul style="list-style-type: none"> <li>• Generating a clean and stable source of electricity and promoting rural electrification process.</li> <li>• Creating new jobs for local people, especially the ethnic minority people, reducing the local unemployment rate. During the construction phases of the project, local labour are employed to work impermanent while expected 20 local people have been employed and currently under a 18- month training programme with 6 months of internship in another operated hydropower project. These workers will work permanently for the project during the operation phase. Improving the living standard of local people, narrowing the cultural and economic gap among ethnic groups and areas in the region.</li> <li>• Contributing to the local budget through taxes.</li> <li>• During the implementation of the project, the contact, communication and work with skilled workers and staff will help local people exchanging cultural behaviour and acquiring experience and good working skills.</li> </ul>		
10. How do compensation and benefit agreements correspond with the identified needs and rights of the stakeholders negatively affected <u>upstream and downstream</u> due to the project?	The negotiations on compensations are held directly between the project owner and local people living in the upstream and downstream who are potentially negatively affected due to the project. The negotiations on compensations must be based on the compensation rates regulated by the government. The compensation rate and schedule are then approved and supervised by	/5/, /16/, /17/, /18/, /19/, /21/, /22/	<b>OK. All affected people receive the compensation in compliance with regulation and they are satisfy</b>



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	<p>the local authorities. The affected people present their needs and rights during the negotiations and also direct contacts with the project owner if any issue arisen. Apart from commitment to compensate adequately for any lands and damages caused by the project as regulated by governmental guidelines, the project owner also commits to implement the following activities to address the benefits and concerns of the stakeholders as requested by the local residents:</p> <ul style="list-style-type: none"> <li>• Support households who have lands occupied to adapt and stabilize their livelihood.</li> <li>• Support local villages with infrastructure as construction of the road and supplying electricity for local people.</li> </ul>		
<p>11. Was a Stakeholders Forum held with a broad local community participation (based on a customary and national law)? Describe the process and its outcome, and the response of project developer, local and national authorities?</p>	<p>Since the examination of the project until the current construction stage, several stakeholder forums have been conducted. All impacted people who are from indigenous communities and representatives for local NGOs have been attended the forums. As indicated in Item 7, information about the project is made publicly available to local residents.</p> <p>Moreover, in order to consult local people on the social-economic and environment impacts of the proposed project to develop this project as a CDM activity, an extra official meeting between the project owner and the following local people who are well representatives for local residents, local NGOs and local authorities was held in October 2009.</p>	/1/,/2/	<p><b>OK, by interviewing stakeholders, the description has been confirmed</b></p>



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	<ul style="list-style-type: none"> <li>• Commune's People Council: The members of Commune People Council are elected by residents in commune. So the Council opinions officially represent for opinions of the local people.</li> <li>• Commune's People Committee (CPC): CPC is the lowest administration level in Vietnam administrative hierarchy. Chairman of CPC is elected by the Commune People Council, so he well represents the commune's interest.</li> <li>• Commune's communist party committee secretary: this is one of the key government bodies in making development strategies at the communal level.</li> <li>• Village's representative: head of village, secretary of young union, head of farmers' association, head of women's association. Such associations are NGOs and represent the interests of different groups.</li> </ul> <p>Then the internal meetings of local commune were organized subsequently to announce the proposed project activity in non-technical and local language to local residents.</p> <p>All organizations agreed that the project will certainly contribute to sustainable development and environment protection in Vietnam and especially this project will increase local budget and reduce poverty. Therefore, they fully support the project to develop.</p>		
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<b>1.2. Transparency</b>  1. Was key project documentation (e.g., social and environmental impact assessments) made publicly available before a decision to start construction was made?	In general, the project must comply with existing transparency-related regulations (such as The Grassroots Democracy Decree 79/2003/ND-CP) in order to receive licenses and approvals for the investment and construction of the project. It means the project information and summary of the social and environmental impacts have to be made publicly. The project owner has to post the summary of the report on social and environmental impacts in the front of the office.	/1/, /2/	<b><i>OK, by interviewing representative of affected villages, BV verifiers can confirm that all documentation regards to environmental impacts were made publicly in prior to the decision to start construction</i></b>
2. In what form was project documentation made available to stakeholders? Was it the original EIA etc. or was it in another form e.g., a summary of positive and negative effects of the hydrological construction.	The Song Bung 6 Hydropower project has been informed to local people via the following modes:  1. Publicly posting written documents at the commune halls and cultural centers; 2. Using the public speaker system of communes and villages as well as grassroots cultural, information and propaganda organizations; 3. Organizing meetings between impacted peoples, local authorities and project owner. 4. Sending documents to households or village chiefs.	/2/, /5/, /8/	<b><i>OK. Via interviewing and cross – checking relevant records, the response was assessed as reliable</i></b>
3. How many of the total number of stakeholders have had access to the key documentation and have been actively	Most of all the stakeholders in Ma Cooih, Ka Dang communes and Thanh My town have had access to the key documentation because it was publicly posted at the Center of Communes' offices and at the project site.	/1/, /2/, /8/	<b><i>OK. By means of checking documents and records, BV can confirm the number of stakeholders affected</i></b>



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involved?	Besides, via the government at commune level, the project owner invited the stakeholders to attend the meetings to consult their opinions about this project.		
4. Is there a negotiated agreement between the stakeholders and project owner(s)? If so, is it publicly available?	<p>There are negotiated agreements between the stakeholders and the PO about the compensation and the commitment of PO</p> <ul style="list-style-type: none"> <li>- The compensation plans were negotiated with and agreed by each impacted household and approved by the local government.</li> <li>- Commitment to support local villages in constructing and improving infrastructure, i.e. construction of road and new school building</li> </ul> <p>The final approved compensation plan and the list of compensated households were publicly by the communal authorities via the publicly posting written documents at the commune halls and cultural centres</p>	/2/, /5/, /6/	<p><b>OK</b></p> <p><b><i>The answer was assessed as reliable by checking relevant legal decision and compensation records on – site</i></b></p>



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**Validator's Conclusions concerning Priority 1:**

The EIA and other important documents are reviewed.

The stakeholder group was clearly identified in the phase of feasibility investigation of the project activity.

Necessary information of the project activity (impacts, design ...) was made publicly available. Therefore the stakeholders affected by the project were involved in the decision-making process.

The process follows national laws and regulation.

All the documentation referred to the approval and stakeholder consultations were provided by the PP and were verified through on-site investigation and document review.

2. Comprehensive Options Assessment			
<b>2.1 Needs:</b> 1. What priority is given to hydropower in <b>national development or energy planning</b> (e.g. relevant government decisions)?	Due to the lack of electricity in Vietnam so far, the government (including EVN and related ministries and agencies) encourages the investment activities to exploit renewable resources to produce electricity although no specific supports are given to hydropower in particular or renewable power in general to date. The project to prepare "Strategies and master plans for renewable energy in Vietnam for the period up to 2015 with the perspectives up to 2025" is being	/10/	<i><b>OK, via checking relevant documentation, the content of description has been confirmed and assessed reliable</b></i>



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	implemented by the Ministry of Trade and Industry in order to encourage the investment in exploitation of renewable energy resources in Vietnam since 2007 but not yet finalized and publicly available.		
2. What are the needs for hydropower at regional and local level?	Vietnam has certain natural endowments to generate electricity from non-renewable sources, e.g. fossil fuels (coal, FO, gas) and renewable sources. Among the renewable sources, hydropower is the most potential sector due to the largest hydrologic endowment in Vietnam compared to those of wind, solar, biomass which are viable sources at a limited small scale due to the technology and investment barriers. The consideration of the need for constructing this hydropower vs. other alternation is presented in Section 2.2.	/33/	<b><i>By checking source, BV verifiers confirm the response is correct</i></b>



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<p>3. What are the regional/national supply needs of the electric system (renewable base load, peak load or load balancing of the grid, support of intermittent renewable)?</p>	<p>Load balancing of the grid, support of intermittent renewable</p>	<p>/25/</p>	<p><b><i>OK, sources checked and answer was assessed reliable</i></b></p>
<p>4. Describe safeguards for equitable access to water resources. How do hydropower projects contribute to efficient water resources management?</p>	<p>The consideration of the exploitation of hydrologic potential vs. the other benefits provided by Song Bung 6 water resources has been done at the provincial level. The Song Bung 6 hydropower project was listed in the Provincial Master Plan for power development which is published by the Vietnamese government. It showed that the balance between meeting the demand for electricity and maintaining the access to water resource to serve other</p>	<p>/2/, /3/, /32/</p>	<p><b><i>By interviewing the local stakeholders, BV verifiers can confirm that the project does not major affect the water resources</i></b></p>



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	<p>purposes has been taken into account.</p> <p>And because the reservoir of Song Bung 6 Hydropower project is not regulated, it will operate sync with other hydropower's which is in upstream so it will not have a major impact on the water supply for the regions upstream and downstream.</p> <p>The domestic water of local residents who live near the Song Bung 6 hydropower project was supplied by the clean water from other streams. The area which far from the project site about 2-3 km is not in need of the clean water for life activity and agricultural water requirement.</p>		
5. Does this hydropower project provide financial incentives to develop a multi-purpose project?	<p>This project has been implemented with the main purpose is generating the clean electricity without GHGs emission and supply to the national grid. Other multi-purposes may bring by the project are resulted from the commissioning and successful operation of the hydropower plant. The project is applied as a CDM project that will make the project more viable that in turn will secure other purposes expected from the implementation</p>	/2/, /27/	<p><b><i>By checking relevant documentation regarding to investment, the project is substantiated to develop only specified purpose</i></b></p>



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	of this project activity. Apart from CDM incentive, the project will be not benefited from any other financial supports/incentives set by the government and under the ODA source.		
<b>2.2. Alternatives</b> 1. Describe the examination of alternatives to the project that have been considered (include details of feasibility studies and do-nothing options analysis that have been conducted).	<p>Under the feasibility studies, different options for dams and power channel have been conducted which includes:</p> <p>The different options have been evaluated based on various terms, such as typology, energy efficiency and hydrologic conditions in order to provide the most efficient and safety option for the designed capacity and the location. However, all options proposed the same capacity with the main difference in the water level of the reservoir only.</p> <p>The designed options based on the dam location have been considered under the feasibility study. Do-nothing option means the region would have been continued being not connected to the national grid and being isolated from the neighbour regions. It therefore has very obviously negative impacts on the national and regional development policies to reduce</p>	<p>/23/, /25/, /32/</p>	<p><i>By reviewing the Master Plan of Province and relevant documents regards to the electricity development in Quang Nam Province, the response was assessed as reliable</i></p>



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	poverty in the region. This option is not realistic.		
2. Have stakeholders been involved in the identification of the options? Describe process and outcome of that involvement	<p>In general, the local people strongly support for the construction of the proposed project. The different designed options for the proposed project will have the same capacity and not have major changes on the land occupied areas that are the most concern of the local people. Therefore, the details of the designed options were not discussed with the local stakeholders.</p> <p>As discussed above, the do nothing option, means that the project region would have been remaining as an isolated and less developed area. For this reason, the local people have been fully supporting for the project from the beginning and during the whole stakeholders' consultation process as presented in the previous section.</p>	/1/, /2/, /27/	<b><i>By checking records and interviewing local stakeholders, the consultation process had been provided accordingly</i></b>
3. What are the main reasons behind the project choice and site selection (social, environmental, economic, and	<p>The main reasons for selecting the project are:</p> <ul style="list-style-type: none"> <li>- Social: As there is no household settled in the project area, the project will have minor negative impact on the livelihoods</li> </ul>	/2/, /23/, /40/	<b><i>By FSR checking, the content has been confirmed sufficiently</i></b>





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technical)?	<p>of local people. However, the project activity will contribute to improve social quality in this poor region, i.e., accessing to the clean water, electricity, communication; improving of access roads; constructing a new school, and creating new jobs for local people, especially the ethnic minority people, reducing the local unemployment rate. These benefits will be a significant contribution to the livelihoods of the people living in this poor mountainous area.</p> <ul style="list-style-type: none"> <li>- Economic: there is very small area of cultivated land occupied without any households, so the compensation cost will be reduced. The project activity will contribute to facilitate the economic development by improving the infrastructure system in the region and contribution to the local state budget through taxes</li> <li>- Technical: The hydrologic condition is suitable to generate clean electricity without GHGs emission and supply to the national grid</li> <li>- Environmental: the project will have certain negative impacts</li> </ul>		
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	<p>on the regional environment as discussed below but they are mainly lasted during the construction period that can be eliminated by implementing properly mitigation activities. Such negative impacts can be offset by the positive impacts created by the project in a long term.</p> <p>As discussed above, the different designed options have the same capacity, land occupied but mainly different in the water level of the reservoir.</p> <p>- The option with the dam location was selected because it has the lowest impact on the environment and highest safety. The selected option will ensure the flood sewage process</p>		
4. What are the consequences of non-action for the local and global environment?	<p>The project activity will provide a clean electricity source without GHGs emission to the national grid that is dominated by thermal power plants, therefore non-action means more negative impacts are expected to the global climate system due to more GHGs emitted into the atmosphere. The province where the project located is a poor mountainous area and vulnerable</p>	/25/	<p><b><i>By checking EIA report of the Project, BV verifiers can confirm the response. Beside, verifies also made an interview with local people to confirm that all negative impacts was reduced and eliminated during the development of the Project</i></b></p>



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	to climate change. Thus the more severe the climate change is, the more damages that this region may face. Furthermore, the project will contribute to provide more water in the dry season that will contribute to reduce the negative impacts due to the draughts on local people and environment.		
5. On the project assessment level, describe project variants and types of technology considered in comparison with the selected option.	<p>Given the water head, flow and proposed capacity, the FS consultant has proposed to install Bulb turbine due to its simple structure, stable operation at a high efficiency.</p> <p>The two options have been proposed. One is with 2 Kaplan turbine units and the other with 2 Bulb turbine units. The technical consultant proposed for 2 Bulb turbine units option.</p>	/23/, /24/, /25/, /41/	<b>OK. Via cross – checking with FSR, the response was assessed correct</b>
<b>Validator's Conclusions concerning Priority 2:</b> <p>The development needs and objective of the project are defined in the project design documents (FSR/EIA) prepared by qualified entities. These documents are approved by the government before the start of the project. A range of variants and possible options were identified. The selection is based on a comprehensive and participatory assessment of the full range of policy, institutional and technical options. In the assessment process social and environmental aspects have the same significance as economic and financial factors. The options assessment process continued through all stages of planning, project development and operations. The audit team considered the WCD criterion as fulfilled.</p>			
<b>3. Addressing Existing Dams/hydroelectric</b>			



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projects			
<p>1. For hydroelectric projects with dams, please describe the national requirements and routines for monitoring and reporting regarding:</p> <ul style="list-style-type: none"> <li>• emergency warning,</li> <li>• sediment management,</li> <li>• safety system,</li> <li>• maintenance system,</li> <li>• environmental impact,</li> <li>• social impact,</li> <li>• implementation of compensation agreements.</li> </ul>	<p>In order to operate a hydroelectric project with dams, the following national requirements and routines for monitoring and reporting regarding the</p> <ul style="list-style-type: none"> <li>- emergency warning,</li> <li>- sediment management,</li> <li>- safety system,</li> <li>- maintenance system,</li> <li>- environmental impact,</li> <li>- social impact,</li> </ul> <p>have been imposed:</p> <ol style="list-style-type: none"> <li>1. Law on Water Resources No 08/1998/QH10 dated 20/05/1998.</li> <li>2. Decree No. 08/2006/ND-CP of January 16, 2006 detailing a number of articles of the Ordinance on Flood and Storm Prevention and Combat, which was amended and supplemented on August 24, 2000. In flood season, the construction will be monitored by the Flood Prevention Panel of Quang Nam Province</li> <li>3. Ordinance No: 32/2001/PL-UBTVQH10 dated 04 April 2001 on the exploitation and protection of irrigation works</li> <li>4. Decision 285/2006/QD-</li> </ol>	<p>/3/, /7/, /8/, /12/, /13/, /14/, /15/, /16/, /17/, /22/, /31/, /38/, /39/</p>	<p><b><i>OK, all requirements with respect to emergency warning, maintenance system, environmental impacts and compensation were identified sufficiently, transparently and verified to be reliable</i></b></p>



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	<p>TTg date 25-12-2006: On the contents and competence to promulgate and organize the implementation of the process of operation of hydropower reservoirs.</p> <p>5. Decree No. 72/2007/ND-CP ensuring dam safety to be the highest priority in construction, management, exploitation and protection of reservoirs. Dam safety management is to be done regularly, continuously in the process of reservoir construction and exploitation</p> <p>6. Other standards and procedures related to hydrological construction of reservoir.</p> <p>According to Vietnamese Standards and law for ensuring dam safety, the following actions must be complied to reduce the negative impacts: The reservoir and the dams are subject to a operation process that is approved by the government. The project owner is mainly responsible for the safety operation of the reservoir and dams according to the process approved, in which regulates a periodic reporting scheme to the</p>		
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	<p>local authorities on the safety and operation of the reservoir, dam and plant is required.</p> <ul style="list-style-type: none"> <li>• Emergency warning: when a problem occurs, which may cause the dam un-safety, the rescue work must be deployed with the best effort and the highest priority for safety of dams and minimizing loss.</li> </ul> <p>Besides, the project owner has to inform the appropriate authorities instantly when any of the situations below occur</p> <ul style="list-style-type: none"> <li>o Dam is broken down</li> <li>o Problem in operating valve gate in flood season</li> <li>o Heavy rain in the basin of reservoir when it is at its full capacity</li> <li>o Sabotage of dam (doubtful)</li> <li>• Sediment management. <ul style="list-style-type: none"> <li>o At the designing period: The sediment capacity of the reservoir is defined according to the scale of a reservoir. The full sediment storage in normal conditions shall be at least 50 years</li> <li>o At the operating period: <ul style="list-style-type: none"> <li>- Initiative in discharging sediments in sedimentation</li> </ul> </li> </ul> </li> </ul>		
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	<p>chamber as necessary by sluicing outlet.</p> <ul style="list-style-type: none"> <li>- Capable to discharge sediments out of the chamber or to store in the well for regularly mechanical cleaning.</li> <li>• Safety system: <ul style="list-style-type: none"> <li>o Protection range</li> </ul> </li> <li>- With dam: Project owner identifies and installs the border line of the dam and the surrounding</li> <li>- With reservoir: the People Committee identifies and installs the border line of the reservoir and the surrounding <ul style="list-style-type: none"> <li>o Protection measures</li> </ul> </li> <li>- Patrol and watch at important location when heavy raining or flooding</li> <li>- Check and verify people, tourism vehicles or guests when visiting dam</li> <li>- Limit or forbid big vehicle moving on the dam</li> <li>- Conduct dam surveys and meteorology-hydrology measurement</li> <li>- Establish the storm and flood protection steering committee for reaction in emergency cases.</li> <li>- Having a well-trained</li> </ul>		
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	<p>operation and maintenance staff</p> <ul style="list-style-type: none"><li>• Maintenance system</li><li>o Methods for reducing the probability of dam failure are proposed and will be employed throughout the life cycle of the dam. During the operation of the dam, instrumentation, regular inspections and repairs will be implemented to reduce the risk of failure. Instrumentation includes a wide range of technologies that measure changes in the dam structure and foundation, such as strain gauges. These instruments can provide information regarding how the dam is changed over time so that potential problems can be detected early and resolved in a cost-effective manner. Regular inspections of the physical structure of a dam will be implemented to identify problems before they become crises. The frequency of inspections will be correlated to the risk of dam failure. Parts of the dam and foundation that are underwater shall also be inspected. Based on the information compiled from regular inspections, necessary repairs will be made.</li></ul>		
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	<ul style="list-style-type: none"><li>o Surveys on dam structure after heavy rain or flood.</li><li>o During the operating life of a dam, hydrologic data and operating plans shall be collected and analyzed regularly. A review of the hydrologic data will be useful in verifying the validity of the information on which the design of the dam was based, and in detecting changes in river flow patterns that may affect the safe operation of the structure. Reviews of operating plans shall be done to identify opportunities to improve safety by managing water levels, as well as to adapt to changing priorities for services provided by the dam and to optimize the dam's performance. As a dam ages, rehabilitation of the structure may be necessary to avoid failure due to deterioration of the dam or to changes in environmental conditions. Rehabilitation may include measures such as dredging the reservoir to remove accumulated sediments and restore storage capacity, strengthening construction materials by adding a coat of concrete and other measures.</li></ul>		
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	<ul style="list-style-type: none"><li>• Environmental impact:<ol style="list-style-type: none"><li>1. To provide a written report to the district people's committee in the locality for implementation of the project about the contents of the decision approving the environmental impact assessment report and enclosing a copy of such decision on approval.</li><li>2. To publicly list at the location for implementation of the project a summary of the approved environmental impact assessment report, specifying the following items: the type and volume of waste materials; the technology and equipment for treating waste; the level of treating waste in accordance with the particular parameter of the stipulated standard for the waste material; and other environmental measures.</li><li>3. The design, construction and installation of environmental treatment facilities:<ol style="list-style-type: none"><li>(a) On the basis of the preliminary drawings of the fundamentals of the environmental treatment facilities set out in the approved environmental impact assessment report, to carry out</li></ol></li></ol></li></ul>		
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	<p>detailed design and to construct and install such facilities correctly in accordance with the current regulations on investment and construction;</p> <p>(b) After the detailed design of the environmental treatment facilities of the project has been approved, to send a written report to the State body which approved the environmental impact assessment report together with the plan on construction and installation enclosing the detailed design file in order for such body to monitor and inspect [construction and installation].</p> <p>4. To protect the environment during the process of execution of the project building works:</p> <p>(a) During the process of execution of the project building works, to take measures to protect the environment including measures to reduce negative impact on the environment caused by the project, and to continue to observe and measure the environment correctly in accordance with the requirements set out in the approved environmental impact assessment report including any</p>		
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	<p>other requirements set out in the decision approving such report;</p> <p>(b) If during the process of execution of the project building works there are any amendments or changes to the contents and methods for environmental protection which have been approved or certified, to provide a written report to the body which approved or certified the report, and only to take measures after such body has granted its written approval;</p> <p>(c) If during the process of execution of the project building works or operational testing of the project any environmental pollution is caused, such execution or testing must be immediately stopped and a report made to the office of natural resources and environment at the district level in the place where the project is being implemented and also to the body which approved the environmental impact assessment report;</p> <p>(d) To co-operate with the State administrative body for protection of the environment and to facilitate the supervision and inspection by such body of the</p>		
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	<p>items and measures for protection of the environment by the project; and to provide complete information and data at the request of such body.</p> <p>5. Operational testing of environmental treatment facilities:</p> <p>(a) After construction and installation of the environmental treatment facilities completed and the facilities have been accepted, the facilities must be operationally tested in order to check that the technical parameters regarding the environment have been satisfied in accordance with the design;</p> <p>(b) To prepare an operational testing report and to notify it to the body which approved the environmental impact assessment report, the Department of National Resources and Environment and the office of natural resources and environment at the district level and the resident community in the location of implementation of the project in order that a plan on supervision and inspection can be arranged;</p> <p>(c) If the project owner does not have the capability to itself</p>		
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## WCD ASSESSMENT REPORT

	<p>conduct surveys and analysis of the technical parameters regarding the environment, it must sign a contract with an organization with adequate professional and technical skills to conduct such surveys and analysis;</p> <p>(d) On completion of operational testing, to forward a written report to the body which approved the environmental impact assessment report requesting certification of the results of operational testing of the environmental treatment facilities, in order for such body to provide its certification.</p> <ul style="list-style-type: none"> <li>• Social impact <ul style="list-style-type: none"> <li>o Propagating and mobilizing to the local people for their understanding and supporting to this project.</li> <li>o Carry out the compensation work seriously</li> <li>o Create new jobs for local people to reduce the unemployment which also reduce the social evils.</li> </ul> </li> <li>• Implementation of compensation agreements: All the compensations are carried out under the supervisor of</li> </ul>		
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	Compensation Council. Compensation can be made not only for the loss of land and houses, but also for the loss of access to jobs and communal resources by using local human resources for appropriate jobs in the construction and operation phases.		
2. For non-dam projects, describe details of the continuous monitoring of the project (environmental and quality assurance)	NA		NA
3. How have relevant outstanding social and environmental issues from existing dams/hydroelectric projects in the river basin been addressed?	The EIA report and the stakeholder consultations show that there are no outstanding social and environment issues from existing dam/hydroelectric project in the river basin. However, if any outstanding social and environmental problems may occur during the construction and operation of the project, the project owner will collaborate with relevant entities (local residents and local authorities) to implement the mitigation measures as indicated in the EIA report.	/2/, /23/	<b>OK. Checked and confirmed via site – visit. The response is reliable</b>



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<p>4. Have national regulations been enforced for existing dams and what can be concluded with regard to compliance?</p>	<p>The construction, operation and maintenance of the existing dam are regulated by relevant national regulations. During the construction, its quality is supervised by a third independent and accredited party in order to comply with the National Construction Codes. Before and during the operation, it is regulated by the Procedures for Operation of Reservoir which will be approved by appropriate agency. The project is allowed to operate only when the quality supervision report is positive as well as having the approval of the Procedures for Operation of Reservoir via the issuance of the License for Usage of the surface water by MONRE</p>	<p>/13/, /14/, 15/</p>	<p><b>OK, by checking document, BV verifiers confirm the response</b></p>
<p>5. Will the implementation of safety measures and evacuation plans be independently audited?</p>	<p>The safety measures for the operation of the reservoir and dam is approved by MONRE via the issuance of the License for Usage of the surface water. The implementation is supervised by the local authorities. The project owner is requested to report periodically to the relevant local authorities the status of the plant and construction items. Annually, the project owner has to submit a</p>	<p>/13/, /14/, /15/, /19/, /29/</p>	<p><b>By site – visit checking, the content has been confirmed</b></p>





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	plan for flood prevention to the local authorities for approval and coordination. The evacuation and safety measures will be incorporate in such reports and the implementation is supervised by the local authorities.		
6. Provisions for maintenance and decommissioning <ul style="list-style-type: none"> <li>What provisions have been made for maintenance and refurbishment (e.g. a maintenance and refurbishment fund)?</li> </ul>	No such fund is set up for the entire project lifetime however; annual maintenance and refurbishment costs have been taken into account in the financial analysis to make the investment decision as regulated by the government.	/23/	<b>OK, by checking document, BV verifiers confirm the response</b>
<ul style="list-style-type: none"> <li>What arrangements are made for decommissioning at the end of the plant lifetime, if any (e.g. decommissioning set aside fund)?</li> </ul>	Decommissioning concept is not yet introduced and regulated by the government. Therefore, the project owner has not yet any arrangements for decommissioning at the end of the plant lifetime.		<b>OK</b>
<ul style="list-style-type: none"> <li>Describe provisions for emergency drawdown and decommissioning.</li> </ul>	<ul style="list-style-type: none"> <li>Emergency warning: when a problem occurs, which may cause the dam un-safety, the rescue work must be deployed with the best effort and the highest priority for safety of dams and minimizing loss.</li> <li>When the proposed project is commissioning, project</li> </ul>	/8/, /13/	<b>OK, by checking document, BV verifiers confirm the response</b>



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	<p>owner will made the "Procedures for Operation of Reservoir" (approved by appropriate agency) which contains the provisions for emergency drawdown. The content of Procedures for Operation of Reservoir will contain: Operation in flood season; Operation according to electricity generation task; Monitoring meteorology and hydrology factors; Responsibilities rights of the plant and local authorities; Organization and implementation.</p> <ul style="list-style-type: none"> <li>• In general, the project owner has to inform the appropriate authorities instantly when any of the situations below occur, a part from a regularly periodic reports: <ul style="list-style-type: none"> <li>o Dam is broken down</li> <li>o Problem in operating valve gate in flood season</li> <li>o Heavy rain in the basin of reservoir when it is at its full capacity</li> <li>o Sabotage of dam (doubtful)</li> </ul> </li> </ul>		
<ul style="list-style-type: none"> <li>• Are they sufficiently flexible to</li> </ul>	The costs for maintenance and implementing environmental		<b>OK, by checking document, BV verifiers confirm the</b>



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accommodate changing future needs and values, including ecosystem needs and ecosystem restoration (Guideline 12)?	monitoring and mitigation activities have to be covered by the project owner ex post and have to be taken in the annual financial plan. If any changes in the future needs and values, the project owner will be wholly responsible for adjustment of the plan and payment.		<i>response</i>
<ul style="list-style-type: none"> <li>Does the licence for project development define the responsibility and mechanisms for financing decommissioning costs?</li> </ul>	No definition is provided by Vietnamese law.		<b>OK</b>
<ul style="list-style-type: none"> <li>Describe economic, environmental, social and political factors that may point against future decommissioning, if this has been recognised as the best solution.</li> </ul>	With future decommissioning, the electricity supplying to the local area will be reduced, and about 20 workers will be unemployed. So it may create negative economic and social issues.		<b>OK, by checking document, BV verifiers confirm the response</b>



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**Validator's Conclusions concerning Priority 3:**

The project is a newly built hydropower station with a reservoir. The national requirements and routines for monitoring and reporting are in line with national regulations and laws. This was checked by means of interview and document review. No provisions have been made for refurbishment. This is not required by national regulations. The audit team considered the WCD criterion as fulfilled.

**4. Sustaining Rivers and Livelihoods**

4.1. Water use ratio*			
Water use ratio (ratio of natural flow, agricultural water, industrial water, domestic water...) including: 1. population of the river basin area ( $10^6$ inhabitants)	Population: 0.008 million	/3/, /23/	<b>OK, by checking document, BV verifiers confirm the response</b>
2. natural mean flow ( $m^3/s$ );	Natural mean flow: $119 m^3/s$	/3/, /23/	<b>OK. Correct via checking FSR</b>

\* Water Use Ratio - an environmental indicator which refers to the withdrawal of water for irrigation, industry, household use... A ratio of 25% or higher is generally an indicator of water stress. Important water demanding activities affect seriously its quantity and in consequence the availability of water resources. Some of these driving forces are urbanization, industry and agricultural production. The increase in impervious surface has the effect of reducing water infiltration and aquifer recharge



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3. demand (m <sup>3</sup> /s);	NA	/3/, /23/	<b>OK. Correct via checking FSR</b>
4. water use ratio (%);	NA	/3/, /23/	<b>OK. Correct via checking FSR</b>
5. comparison of water demand with natural mean flow;	NA	/3/, /23/	<b>OK. Correct via checking FSR</b>
6. storage capacity (km <sup>3</sup> );	NA	/3/, /23/	<b>OK. Correct via checking FSR</b>
7. annual water consumption by type of users (hm <sup>3</sup> /year): agricultural and farming, domestic use, industrial use	NA	/3/, /23/	<b>OK. Correct via checking FSR</b>
<b>4.2 Impact Assessment</b> (Note: both positive and negative impacts should be included here)  What Impact Assessments have been carried out and on which regulations were they based on? – Describe the major impacts in each of the following categories and the mitigation measures for negative impacts:	According to environmental law, the EIA report for this project was conducted to assess the potential impacts on environment and society, economy.  The environmental impacts and mitigation measures are summarized as follows.	/3/, /7/, /8/, /9/, /10/, /29/	<b>OK. EIA has been made legally with local legislation</b>
<b>4.2.1. Environmental Impacts</b>	1.1. Environment Impacts 1.1.1. Impact on land	/2/, /23/, /29/, /40/	



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<p>Describe environmental impacts of the project (including impact on water quality (temperature, oxygen, etc.), soil, air quality, GHG emissions, <b>biodiversity</b>, habitats, risk of erosion caused by inundation etc.)</p>	<p>The proposed project will occupy 137.94 ha area land for arrangement of project structures, in which, the area of long-term occupied land for reservoir and plant is 89.64 ha and the balance is temporary occupied land for construction period. Most of land is fallow land, forest land, and river land. Ecological system is not affected significantly by the project activity.</p> <p>No household has to be resettled under the project.</p>		<p><b><i>By reviewing the EIA report, all environmental impacts are sufficiently identified</i></b></p> <p><b><i>Other data was checked and confirmed</i></b></p>
	<p>1.1.2. Impacts on water flow</p> <p>The project will create a reservoir with the area of 39.8 ha. Since the reservoir regulates water level on the daily basis, and hence the water flow of Bung River will be affected insignificantly in quality. When commissioning, the reservoir will be used for the purpose of generating electricity but is also helpful to prevent floods.</p>		
	<p>1.1.3. Impacts on ecological system</p> <p>The Song Bung 6 Hydropower Project does not cross-out any</p>		



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	<p>natural conservation areas, national forests or specialized forest. After constructing, the forest area which is temporarily occupied will be reforested</p> <p>1.1.3.1. Impacts on flora and on fauna</p> <p>All work will be carried out in a manner such that damage or disruption to vegetation is minimized. After completion of construction activities, temporarily occupied areas will be re-vegetated. Provision of heating and cooking options without use of wood. Provision of environmental training on environmental management issues</p> <p>Environmental protection by guards, capacity building of forest rangers, and control the illegal activities.</p> <p>1.1.4. Impacts on local environment surrounding the construction site</p> <ul style="list-style-type: none"> <li>Dusts and gas emissions:</li> </ul>		
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	<p>During the construction phase, activities such as area levelling, road making, exploitation/transportation of building materials etc. may emit to the air dusts and gases like CO<sub>x</sub>, NO<sub>x</sub>, SO<sub>x</sub>. These gases have negative impacts on the health of people and animals.</p> <ul style="list-style-type: none"> <li>• Noise: Noise is caused by mine explosions during the construction and by operation of vehicles. The magnitude of noise and of vibration from mine explosion will affect the exploitation and construction sites.</li> </ul> <p>1.2. Mitigation measures to reduce negative impact Construction phase</p> <ul style="list-style-type: none"> <li>o On soil: All excavated rock and aggregate will be used in construction where possible, while the spoil will be deposited in areas with minimum landslide</li> </ul>		
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	<p>potential; layered and covered with soil; and planted with trees, shrubs, and grasses.</p> <p>o On water quality: Avoiding the direct discharge of untreated sanitary waste or oil to the river Clearing the reservoir foundation: clearing the designated areas of all trees, down timber, snags, vegetation, rubbish and objectionable material and shall include grubbing stumps and roots and disposing of all material resulting from the clearing or grubbing. Regular monitoring of water quality at stations in the river or auxiliary and resettlement zone.</p> <p>o On air quality Using water spray trucks for dust suppression will mitigate dust generation from construction traffic. All means/vehicles for transport of construction</p>		
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	<p>materials must be covered in order to minimize dust dispersion.</p> <p>All transport equipment/vehicles and machines must have operational certifications issued by the Directorate for Standards and Quality. Regular monitoring of air quality included dust, CO, NO2, SO2... at stations in the construction area.</p> <p>o On noise Enforcement of using ear protection during construction period. Arrange works on day time, constrain working by night</p> <p>o Waste collection and treatment Implement regular collection and treatment of solid and liquid wastes, including the construction of a dumping area Conduct awareness on the environmental protection for workers and local people.</p>		
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	Operational phase Preventive measures and reaction towards environment problems: Install monitoring equipment to monitor absorption and distortion of water rising and water quality released from the plant and propose suitable preventive measures if required.		
<b>4.2.2. Environmental Flow Assessment</b>  1. Describe how the environmentally safe minimum flow has been determined.	According to the Vietnamese law for these small and medium hydropower projects like Song Bung 6, the environment flow assessment is included in the EIA. Besides, Song Bung 6 is the after-dam hydropower plant then the flow will be maintained in the downstream.	/3/, /29/	<b>OK</b>  <i>The response was assessed correct via refer local legislation and relevant records</i>
2. Describe the measures taken to minimise the impact of reduced flow in the affected river.	<ul style="list-style-type: none"> <li>During the initial filling of the reservoir and the operation period, a compensation flow will be considered to supply water for downstream areas.</li> <li>The period for the initial filling shall be kept as short as possible in order to minimize the period in which the downstream is only supplied by water from the with only compensation flow.</li> <li>Allow the water flow over</li> </ul>		<b>OK, by checking document and relevant records, BV verifiers confirm the response</b>



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	the spill way to maintain the stream flow		
3. Describe the measures taken to maintain ecosystems, productive fisheries and other aquacultures downstream and upstream	<p>The reservoir should be self-populated by indigenous fish species that can adapt to the reservoir.</p> <p>If after some years, it shows up that the natural recruitment of the reservoir is too low, a fish stocking program shall be considered to apply for the reservoir.</p>	/3/, /40/	<b><i>By checking EIA, the measure has been fully recorded and confirmed</i></b>
4. Describe the activities the project developer will undertake before flooding the land (e.g. clearing of vegetation or other preparations).	Before flooding the land, the clearing activities were taken including cutting down trees and snagging stumps and roots, and collecting rubbishes and disposing rubbishes collected.	/3/, /40/	<b><i>OK. Project construction document checked and the activities were planned before flooding the land</i></b>
5. Describe any other compensatory measures addressing environmental impacts of the project	Implement an afforestation plan around the project site and power house and in the temporarily occupied areas under the construction phase.	/3/	<b><i>OK</i></b> <b><i>BV verifiers already took the site – visit and confirm the information in the answer</i></b>
<b>4.2.3. Social Impact Assessment</b>  1. Describe social impacts of the project (including resettlement, impacts on other land or river use e.g. fishing, agriculture, hunting and use of other	1.2. Socio-economic impacts 1.2.1. Negative impacts The proposed project will occupy 137.94 ha area land for arrangement of project structures, in which, the area of long-term occupied land for reservoir and plant is 89.64 ha and the balance is temporary occupied land for	/3/, /23/, /40/	<b><i>By interviewing the local leaders and affected people, verifiers can confirm the description of social impacts of the project</i></b>



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<p>types of natural resources and including benefits to individuals and communities)</p>	<p>construction period. Most of land is fallow land, protective forest land, and river land. Ecological system is not impacted significantly by the project activity.</p> <p>1.2.2. Positive impacts</p> <ul style="list-style-type: none"> <li>o Economic well-being</li> </ul> <p>Once commissioning, this proposed project will increase the industrial share in the economic construction of Quang Nam province. This proposed project will pay annual enterprise's revenue tax, the natural resource tax and CERs tax to the state budget.</p> <p>By supplying a stable electricity output, this project will facilitate the industrialization process of the province and support economic development of local villages through fostering tourism, trade and services inside the province. This project will contribute directly to improve the low-quality infrastructure systems of the mountainous communes.</p> <ul style="list-style-type: none"> <li>o Social well-being</li> </ul> <p>Dong Giang and Nam Giang are the poorest mountainous districts</p>		
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	<p>of Quang Nam province where the quality infrastructure system is very low and the living conditions of local people are not good. The project will construct new roads and upgrade existing ones that then will be integrated into the traffic system of the communes. Thus, the project makes conventions on transfer and trading in the area lead to improve minorities' living standards and contribute to fill the gap in development between different ethnic groups in Vietnam. Because the majority of local residents living in the project area are from the ethnic minorities like Co Tu, Gie-Trieng and others and they usually live in less favourable living conditions than those of Kinh ethnic – the majority of population in Vietnam. The project will construct a new 110 kV transmission line together with the hydropower plant, which will reduce electricity losses and improve the quality of electricity supply in the region.</p> <p>Besides, the project activity could result in the employment of the local people for the construction and operation later. Therefore,</p>		
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	<p>this project activity will contribute directly to alleviate poverty in the region.</p> <p>Mitigation measures to reduce negative impacts</p> <ul style="list-style-type: none"> <li>o On socio-economic impacts:</li> <li>Implement the compensation plan for the local impacted people according to the government law.</li> <li>Create job for local people</li> <li>Upgrade the local infrastructure like road</li> </ul>		
2. Describe any identified health impacts due to the project.	<p>The emission of dust, smoke in the project site may cause the respiratory problems. However, the area is a thin populated region, and the observation showed that there is not serious problem with local people and workers</p>	/3/	<b><i>By interviewing and site – visit, the description has been checked and confirmed</i></b>
3. Describe impacts on religious and cultural heritage	<p>No historical culture and archaeological places exist in the project site so there is no negative impact on religious and cultural heritage.</p>	/3/	<b><i>Through interviewing the minority, verifiers agreed with the description</i></b>
4. Describe the liability provisions safeguarding the implementation of the planned measures.	<p>All the planned measures will be conducted under the supervision of the local government</p>	/8/	<b><i>By reviewing EIA report, EIA approval and interviewing the project owner as well as affected people, verifiers can</i></b>



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			<b>confirm</b>
5. Is the project planned in a responsible way in order to sustain livelihoods and the environment?	The project planned in a responsible way in order to sustain livelihoods and the environment because it will be supervised by the local government.	/7/, /8/, /9/, /12/, /13/	<b>By reviewing the documentation of project owner with relevant legislation, the project plan has considered the sustainable environment</b>
<b>4.3 Cumulative Impacts</b>			
Describe the cumulative impacts of all hydrological structures existing in the river basin using variables such as: <ul style="list-style-type: none"> <li>• flow regime,</li> <li>• water quantity,</li> <li>• productivity,</li> <li>• water quality species composition of different rivers in the same river basin</li> </ul>	There is not any existing hydrological structure in the river basin of Song Bung 6 hydropower project. There are Song Bung 2, Song Bung 4, Song Bung 5, A Vuong hydro powers in the upper step of Bung stream (Song Bung 6 is the lower step) which is being constructed.	/3/	<b>OK, by checking document and relevant records, BV verifiers confirm the response</b>
<b>Validator's Conclusions concerning Priority 4:</b>  The positive and negative impact on the ecosystem, water, air, population health were all stated by the PP and assessed consistent with onsite visit and EIA. According to EIA ecosystem baseline studies were developed and maintenance needs were assessed. The measures implemented by the project owner to protect ecosystem function are in compliance with relevant regulations issued by authority. The auditor team considered the WCD criterion as fulfilled.			
<b>5. Recognising Entitlements and Sharing</b>			





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Benefits			
<p>Are Mitigation, Resettlement and Development Action Plans (where applicable - including <b>commensurate</b> compensation packages) in place? Provide details:</p> <p>1. Demonstrate that the construction of the plant did not lead to worsening of the living conditions of the local residents and resettled families</p>	<p>The Mitigation, Resettlement and Development Action Plans—including commensurate compensation which is approved by the local government are in place:</p> <p>1. The project area is a thinly populated region. And the project owner committed to implement the measures to reduce the negative impacts to the local people and environment like:</p> <ul style="list-style-type: none"> <li>o Waste collection and treatment <ul style="list-style-type: none"> <li>Implement regular collection and treatment of solid and liquid wastes, including the construction of a dumping area</li> <li>Conduct reforestation in the temporarily occupied areas and strengthen the slopes to avoid erosions, after accomplishing the construction of main works.</li> <li>Conduct awareness on the environmental protection for workers and local people.</li> </ul> </li> <li>o Local pollution <ul style="list-style-type: none"> <li>Dust removal measures</li> </ul> </li> </ul>	<p>/3/, /23/</p>	<p><b><i>By interviewing and EIA checking, the content has been substantiated</i></b></p>



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	<p>will be taken such as spraying water along the roads.</p> <p>All means/vehicles for transport of construction materials must be covered in order to minimize dust dispersion.</p> <p>All transport equipment/vehicles and machines must have operational certifications issued by the Directorate for Standards and Quality.</p> <p>o On socio-economic impacts:</p> <p>Implement the compensation plan for the local impacted people according to the government law.</p>		
2. Were compensation and benefit agreements planned in consultation with affected groups?	<p>All the compensation agreement had been negotiated between the project owner and the local people according to the compensation law. The details of the consultation are presented in previous sections.</p>	/5/, /6/, /18/, /19/, /20/, /21/, /22/	<b><i>By interviewing affected people, local stakeholders are fully agreed with construction of the project</i></b>
3. What standards were the measures based on? (e. g. national standards or other)	<p>All the measures are based on national and provincial standards.</p>	/5/, /6/, /18/, /19/, /20/, /21/, /22/	<p><b><i>Cross – check of relevant records implemented</i></b></p> <p><b><i>The response was assessed correct</i></b></p>



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4. Were the affected people satisfied with the compensation packages?	All the affected people are satisfied with the compensation packages.	/5/	<i>By interviewing the Representatives of Local People Committee as well as affected stakeholder. They are fully satisfied with the compensation</i>
5. <b>Benefits</b> for the affected people (individuals and communities): In what way will the affected local and indigenous population's livelihoods be improved due to the project?	<p>The livelihoods of local people will be improved due to the implementation of this project:</p> <ul style="list-style-type: none"> <li>o Economic well-being</li> </ul> <p>Once commissioning, this proposed project will increase the industrial share in the economic structure of Quang Nam province – a poor province in the Central of Vietnam. This proposed project will pay an annual tax to the local budget</p> <p>By supplying a stable electricity output, this project will facilitate the industrialisation process of the province and support economic development of local villages through fostering tourism, trade and services inside the province.</p> <p>After commissioning, this project will supply electricity to speed up the commissioning of other large infrastructure projects in the region.</p>	/2/, /3/, /5/	<i>OK, by checking document and relevant records, BV verifiers confirm the response</i>



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	<p>o Social well-being</p> <p>This project will contribute directly to improve the low-quality infrastructure systems of the Ma Cooih, Ka Dang and Thanh My communes, where almost minority ethnics settle. The communes are categorised as mountainous communes with thin population, less developed and autarky agricultural economy. The communication system and clean water treatment serving for workers of the project during the both construction and operation phases will be shared with local people.</p> <p>The majority of local residents living in the project area are the ethnic minorities like Co Tu, Gie Trieng. They usually live in less favourable living conditions than those of Kinh ethnic – the majority of population in Vietnam. Thus, the project will contribute to improve their living standard that will fill the gap in development between different ethnic groups in Vietnam.</p> <p>Besides, the project activity could result in the employment of the local people for the construction</p>		
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	and operation later on. Therefore, this project activity will contribute directly to alleviate poverty in the region.		
<b>Validator's Conclusions concerning Priority 5:</b>  The compensation agreements were planned in consultation with the affected stakeholder. The compensation agreements are in line with national regulations. The affected stakeholders are satisfied with the compensation packages. This was verified by means of interview and document check. The compensation is in accordance with national and local legal regulations. The auditor team considered the WCD criterion as fulfilled.			
<b>6. Ensuring Compliance</b>			
<b>6.1. Compliance measures:</b>  1. What will be done to ensure that relevant laws, regulations, agreements (including resettlement and compensation agreements) and recommendations are followed?	1. The authorities required the project owner to report periodically about the compensation process. The compensation negotiation and payment are supervised by the Compensation Committee which includes the representatives from impacted people and local authorities. The assignment of the land used to the project owner to construct the project is only issued by the local authorities when the compensations completed without any claims from the local people that is reflected in the final report of the Compensation Committee. All impacted local residents were informed about the project activity	/4/, /5/, /6/, /17/, /18/, /19/, /20/, /21/, /34/, /35/, /36/	<i>Through comparison with relevant laws, regulations for the compensation, verifiers confirm that the compensation process followed legislations</i>



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	and its impacts. Then the negotiation process with each household impacted was taken place. On 21 September 2009 the final compensation decisions were accepted and approved by the Department of Natural Resource and Environment of Quang Nam province via 2 official documents No 149/QD-TNMT and 150/QD-TNMT.		
2. Are the compensation agreements legally binding – through treaties, administrative acts or other safeguards?	All the compensation agreements are legally binding and following the relevant laws.	/4/, /5/, /6/, /17/, /18/, /19/, /20/, /21/	<b>By checking the compensation records, verifiers found that the compensation agreements are legally binding</b>
3. Is the cost of the compensation package included in the financial plan?	The cost of compensation is included in the financial plan.	/22/, /34/, /35/	<b>OK</b> <b>The answer was assessed reliable.</b>
4. Does the project developer already operate other hydroelectric power stations? If so, have there been any conflicts between the project developer and stakeholders related to the development, operation and compensatory measures	This company was founded in March 2009 and does not run any other hydroelectric power stations.	/30/	<b>By checking administration documentation, verifiers confirm that the project developer have not operated other hydropower stations so far</b>



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related to these projects? If so, describe the cause of the conflict and how it was resolved.			
<p><b>6.2. Monitoring and evaluation during crediting period:</b></p> <p>1. Describe conditions in place for monitoring and evaluation of environmental and socio-economic impacts of the project.</p> <p>2. What provisions have been made to ensure that all measures not yet implemented at the time of validation will be put in place as appropriate, and monitored (for example through an independent auditing panel or auditor, or through self-auditing etc.)?</p>	<p>Annually, the project owner has to submit a report on environmental protection activities and environment status to the Department of Natural Resources and Environment.</p> <p>So far, there is no specific rules request the project participants to report on the socio-economic impacts due to the project. However, socio-economic impacts will be reflected in the annual reports submitted to the local authorities such as tax reports. Other impacts on the local residents such as creating and training local people for permanent jobs; sharing the infrastructures (clean water, electricity transmission line) have been confirmed during the site visit of the validation. Such impacts can be checked at annual verifications.</p> <p>2. All the commitments to protect the environment will be implemented by the project owner:</p> <p>(a) After construction and</p>	/8/	<p><b>OK, by checking document and relevant records, BV verifiers confirm the response</b></p>



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	<p>installation of the environmental treatment facilities has been completed and the facilities have been accepted, the facilities must be operationally tested in order to check that the technical parameters regarding the environment have been satisfied in accordance with the design;</p> <p>(b) To prepare an operational testing report and to notify it to the body which approved the environmental impact assessment report, the Department of National Resources and Environment and the office of natural resources and environment at the district level and the resident community in the location of implementation of the project in order that a plan on supervision and inspection can be arranged;</p> <p>(c) If the project owner does not have the capability to itself conduct surveys and analysis of the technical parameters regarding the environment, it must sign a contract with an organization with adequate professional and technical skills to conduct such surveys and analysis;</p>		
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	<p>(d) On completion of operational testing, to forward a written report to the body which approved the environmental impact assessment report requesting certification of the results of operational testing of the environmental treatment facilities, in order for such body to provide its certification.</p> <p>And all these measures will be checked by the government:</p> <p>After the competent State body has approved the environmental impact assessment report, it shall have the following responsibilities:</p> <p>(a) To compare the files on the design and construction and installation of the environmental treatment facilities with the environmental impact assessment report which has been approved, and if any inconsistent items are discovered, then within a time-limit of seven (7) working days from the date of receipt of the file and report, to provide written notice to the project owner to make amendments and additions;</p> <p>(b) To accept and to deal with any opinions from or</p>		
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	<p>recommendations made by the project owner or other organizations and individuals involved regarding implementation of the items and measures for protection of the environment throughout the process of execution of the project building works;</p> <p>(c) To arrange a plan to carry out supervision and inspection of implementation of the items and measures for protection of the environment; to deal with any breaches which arise in accordance with its authority or to recommend that the authorized body deal with such breaches;</p> <p>(d) To arrange for inspection and supervision of operational testing of the environmental treatment facilities after receiving the plan on operational testing from the project owner;</p> <p>(e) To consider and certify results of operational testing of the environmental treatment facilities;</p> <p>(f) To archive and administer the entire file and documents on post-appraisal operation as forwarded by the project owner and other organizations and individuals involved.</p>		
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**Validator's Conclusions concerning Priority 6:**

The Compensation Committee that comprises of affected stakeholder and representatives from local authorities supervise the compensation process. After compensation the Compensation Committee will issue a Final Report. All the compensation agreements are legally binding and following the relevant laws. The compensation has been paid. The audit team deemed the WCD criterion was fulfilled

**7. Sharing rivers for peace, development and security.**

Does the project have trans-boundary impacts? - If so, give details of agreement(s) between affected countries, considering international recommendations for trans-boundary water projects and describe how this affects the project

Song Bung 6 is located on Bung river which is the left branch of the Vu Gia – Thu Bon River. This river is located in Central of Vietnam, which forms the border between the Quang Nam and Kon Tum Provinces. The Vu Gia – Thu Bon river runs wholly in the Central of Vietnam not run through or share the water resources with any other countries. Therefore the project does not have any trans-boundary impacts.

*By site – visit checking, BV verifiers confirmed that no trans – boundary impacts by the project*

**Validator's Conclusions concerning Priority 7:**

The principle is not applicable because there is no transboundary effect due to the project



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***Validator's assessment as to how the project respects the seven strategic priorities outlined in the World Commission on Dams November 2000 Report "Dams and Development – A New Framework for Decision-Making"***

The requirements of the Word Commission of Dams (WCD) are comprehensive and not all of these requirements can be strictly adhered to.

Netherless taking into account this aspect we can confirm that the Project is in compliance with the main principles of the seven strategic priorities:

- The negative impact on the ecosystem and environment is negligible. The measures implemented by the project owner to protect the ecosystem are in compliance with relevant regulations issued by the authority. And the environmental compliance of the project operation will also supervised by local government and environmental protection department.
- The compensation for affected stakeholder has been paid.

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Company/validating entity: Bureau Veritas Certification Holding SAS (BVCH)

Date of validation of the Compliance Report: 20<sup>th</sup> July 2011

**Appendix A****Abbreviations**

BV	Bureau Veritas
EIA	Environmental Impact Assessment
FSR	Feasibility Study Report
CDM	Clean Development Mechanism
PDD	Project Design Document
HPP	Hydro Power Plant

**Persons interviewed:**

Persons interviewed during the validation.

/1/	Ms. A Pat Thi Nhu	Vice President of Village
/2/	Mr. To Ram Uoi	Vice President of People Committee of Thanh My Town
/3/	Mr. A Lang Uon	Local people
/4/	Mr. Nguyen Xuan Binh	Project owner
/5/	Mr. Do Manh Hung	Project owner



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**References:**

Documents reviewed during the validation.

No	Documents
1	The Grassroots Democracy Decree 79/2003/ND-CP, issued in 2003, aimed to increase community participation in local decision-making, especially planning and budgeting.
2	Minutes of Meeting with Ma Cooih, Ka Dang and Thanh My communes dated 22/10/2009, 16/10/2009 and 20/10/2009
3	EIA report of the project in February 2009
4	Decree 79/2003/ND-CP on the issuance of the Regulation on democracy implementation at the commune level
5	Compensation documents
6	Decision 52/2006/QD-HDND dated on 04 May 2006 on detail guidelines of compensation, support and resettlement.
7	The Law on Environmental Protection (2005)
8	Decree 80/2006/ND-CP: On Guidance for the Implementation of the Law on Environmental Protection 2005
9	Decision 143/2004/ND-CP. In regard to The Amendment of The Decree No. 175/CP relating to Implementation of the Environmental Protection Law
10	Decision no. 1855/QD-TTg dated 27/12/2007 to ratify “National Energy Development Strategy until 2020, oriented to 2050”
11	Decision 110/2007/QD-TTg Electricity Development Scheme up to 2015 with perspective up to 2025
12	Decree No. 72/2007/ND-CP ensuring dam safety to be the highest priority in construction, management, exploitation and protection of reservoirs. Dam safety management is to be done regularly, continuously in the process of reservoir construction and exploitation
13	Circular No. 33/2008/TT-BNN of February 4, 2008, guiding the implementation of a number of articles of the Government’s Decree No. 72/2007/ND-CP of May 7, 2007, on management of dam safety
14	Viet Nam Construction Standard TCXDVN 285-2002
15	Ordinance No: 32/2001/PL-UBTVQH10 dated 04 April 2001 on the exploitation and protection of irrigation works
16	Decree No. 197/2004/ND-CP by the Government, dated on December 03, 2004 on compensation, support and resettlement when land is



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	reclaimed by the Government;
17	Circular No. 116/2004/TT-BTC by Ministry of Finance, dated on November 26, 2004 on instructions for implementation of Decree No. 197/2004/ND-CP by the Government, on compensation, support and resettlement when land is reclaimed by the Government;
18	Decision No 45/2005/QĐ-HĐND dated on 14/12/2005 of Quang Nam People Council regulating the land price in Quang Nam province;
19	Decision No. 52/2006/QĐ-HĐND dated 14 May 2006 approving the compensation, support and resettlement when land is reclaimed
20	Decree No. 181/2004/ND-CP by the Government, dated on October 29, 2004 on implementation of Law of land 2003.
21	Decree No. 188/2004/ND-CP by the Government, dated on November 16, 2004 on method for defining price of land and price schedule for types of land.
22	Circular No. 116/2004/TT-BTC by Ministry of Finance dated on November 26, 2004 on instructions for implementation of Decree No. 197/2004/ND-CP by the Government, on compensation, support and resettlement when land is reclaimed by the Government.
23	Feasibility Study Report
24	Investment License
25	<a href="http://www.monre.gov.vn/v35/default.aspx?tabid=428&amp;CateID=25&amp;ID=60496&amp;Code=YYDE760496">http://www.monre.gov.vn/v35/default.aspx?tabid=428&amp;CateID=25&amp;ID=60496&amp;Code=YYDE760496</a> <a href="http://www.eia.gov/countries/country-data.cfm?fips=VM#undefined">http://www.eia.gov/countries/country-data.cfm?fips=VM#undefined</a>
26	Decision No. 3118/QĐ-UBND dated on 14/09/2009 on reclaiming land for construction of Song Bung 6 Project
27	Document No 3961/UBND-KTN dated on 26 October 2009 : verify and support for the CDM development of the investment project by the PPC to the DNA
28	Decision No 668/QĐ-UBND about establishing the Compensation Council dated 18 June 2009
29	Decision 980/QĐ-UBND about approving the EIA report dated on 30/03/2009
30	Business license of the project owner dated on 09/03/2009
31	Decision No. 285/2006/QĐ-TTg dated on 25 December 2006, Regulation for reservoir operation
32	Chapter VI - Master Plan of Electricity Expansion for period of 2006-2015 with perspective to 2025 - EVN (Master Plan VI) approved by the Prime Minister in July 2007
33	Data supplied by EVN



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34	Decision No150/QD-TNMT dated on 21/09/2009 about approving the compensation, resettlement plan and cost of Ka Dang and Ma cooih communes
35	Decision No149/QD-TNMT dated on 21/09/2009 about approving the compensation, resettlement plan and cost of Thanh My commune
36	Decision No 2407/QD-UBND dated on 22/07/2009 approving the plan of compensation, resettlement in Nam Giang and Dong Giang district, Quang Nam province.
37	PDD for Song Bung 6 Hydropower Project
38	Law on Water Resources No 08.1998.QH10 dated 02-05-1998
39	Decree No.08/2006/TT-BTNMT – Guidance for the environmental impact assessment
40	Supplemental EIA report of the project in February 2009
41	FSR for Song Bung 6 with 26 MW